Art and the Computer

Tutorial Guidelines

Tutorial Components

1. Computer Equipment

2. Traditional Art Materials

3. Tutorial Guidelines

4. Participants' Creation Booklet

5. Large Screen Video Projector

6. 9 or 16 square wall matrix

7. 35mm Projector and Slides

8. Music/Sound

Purpose

The purpose of this tutorial is to guide the participants to create visual imagery using both the computer as a tool as well as traditional art materials. Aesthetic reinforcement stimulating the participants' creativity will derive from the following:

- video projections of computer-generated art

- 35mm slide projections depicting history of art imagery and important technological developments

- the creation booklet, which includes visual examples and a bibliography

Tutorial
Preparation

When starting a session, the tutorial guides prepare the creation stations by arranging the materials for ready utilization. This includes placing the creation booklets at each station, providing water for paint mixing, preparing clean-up materials as well as installing the BASIC cartridge into the computer.

In terms of equipment, the slide projector and large screen video projector should be ready to run as the participants begin entering the tutorial environment.

Thumbtacks or other appropriate. hanging devices like tape should be arranged in the wall matrix area.

Creation
Station

Two participants will constitute a team and occupy each creation station at which they will participate in four visual exercises. One team member will create imagery using the computer while the other utilizes traditional art materials. After a period of time during each visual exercise, the participants will trade creation tools to explore the results of creating with different media.
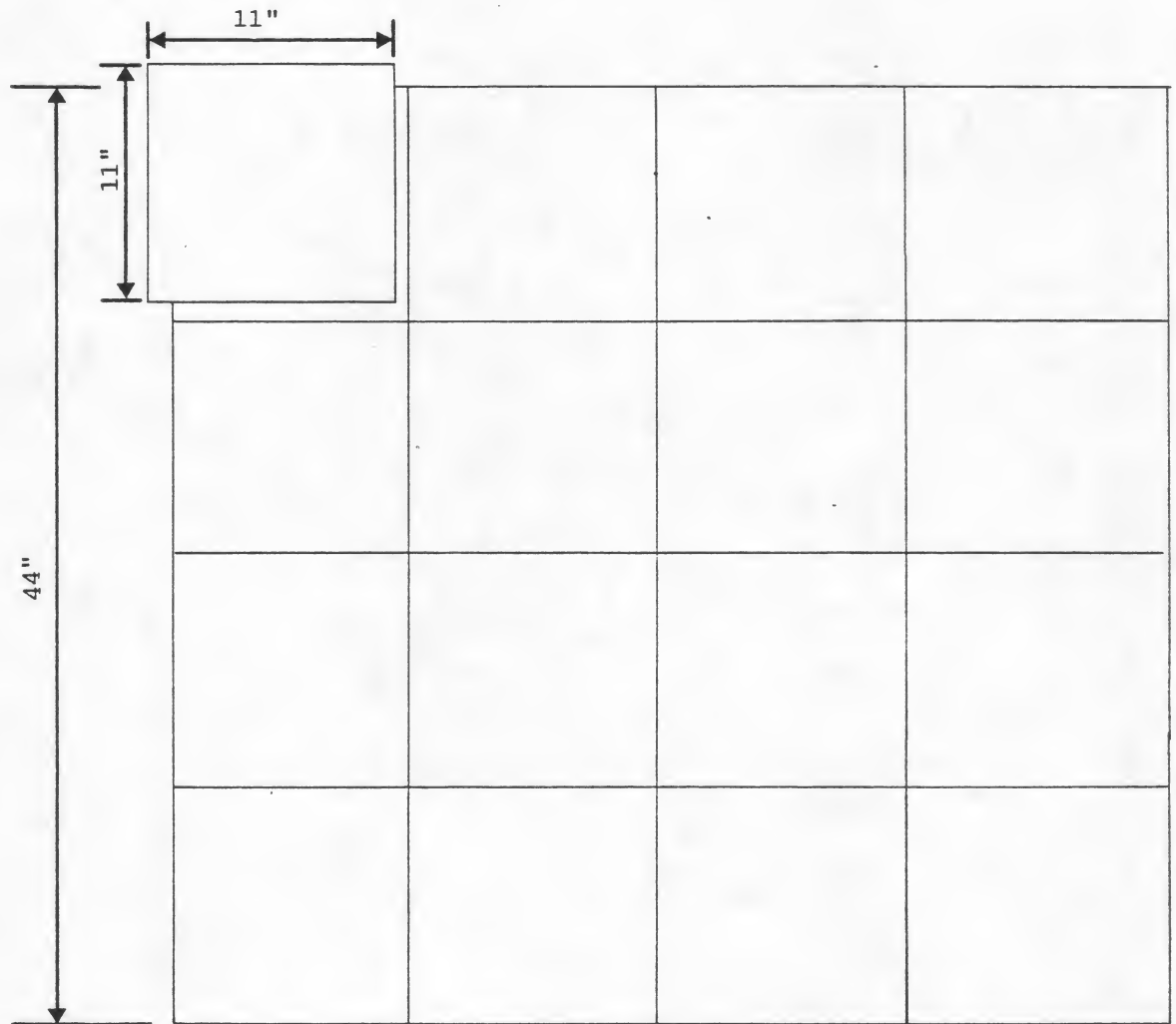
Visual
Exercises

Each participant will participate in 4 visual exercises, highlighting four basic elements of art.
1. Point
2. Line
3. Shape
4. Composition (combination of point, line, shape, color and texture)

As mentioned before each of these exercises will be accomplished by using both the computer and traditional art materials. At the completion of each visual exercise the imagery created with traditional art materials will be displayed on a 9 or 16 square wall matrix. The computer-generated imagery will be displayed as a video output slide show using the "ARTWORK" mode of SUPERPAINT.

Wall Grid Matrix

After each visual exercise the artwork can be pinned or tapped for display.

Visual
Exercise 1

The Point

The different media will be used to create different arrange-
ments of point or dot types on a paper or glass (TV) page
(screen) such as:
1. small, medium, large
2. square, triangular, circular, free-form
3. cut-out, stippled (dotted), splattered, punctured,
4. outlined, filled, textured
5. regularly (computer-assisted) or irregularly (hand-
generated) spaced

Computer Users

1. Create a series of dots either randomly placed or organ-
ized in rows and columns. Initially, use smaller dots
of the same size, shape and color on a black background.
Save the end result of your art collection disk as
POINT 1.

2. Using the same dot creation, change or add dots of
different sizes in a random fashion or regular, mathema-
tical progression. Continue to use the same color and
save the end result on your art collection disk as POINT 2.

3. At this point, change the color of the background by
using the left-most paint pot on the TV screen palette.
Take an opportunity to cycle through all the colors and
their light and dark values to see how the change of
background color effects your original color. Save a
combination that you like on your art collection disk
as POINT 3.

4. Add new dots changing their shapes (geometric or free-
form) and colors. Save your final composition on your
art collection disk as POINT 4.

Traditional Art Material Users

1. Create a series of dots either randomly placed or organ-
ized in rows and columns. Initially, use smaller dots of
the same size, shape and color on a white or colored
background

2. Using the same dot creation, add dots of the same size
in a random or a regular manner using different colors.

3. Using other tools and materials, change or add dots of
different sizes, colors and textures.

After each team member finishes Visual Exercise 1 with his
or her respective medium, they should exchange media and
repeat the procedure.

All paper creations should be organized by the group as a
wall matrix display.

Visual
Exercise 2

The Line

The different media are used to create different arrangements
of line types on a paper or glass page, such as:
1. solid, dotted, dashed
2. short, medium, long
3. thin, medium, heavy
4. straight, curved, free-form
5. hard-edged, soft-edged

The procedures for creating with both computer and tradi-
tional media are the following:

Computer Users

1. Create a series of lines in a vertical and/or horizontal
   or radial orientation either regularly or irregular
   spaced. Use a small brush stroke and one color on a black
   background. Save this as LINE 1 on your art collection
   disk.

2. Add new lines or change existing lines to different thick-
   nesses and lengths. Save this as LINE 2 on your disk.

3. Change the color of the background to something harmonious
   to the composition. Be sure to cycle through all of the
   colors and values. Save this as LINE 3.

4. Add new lines or change existing lines to different colors
   and textures (dotted, dashed, etc.). Save this final
   creation as LINE 4.

Traditional Art Material Users

1. Create a series of lines in a vertical and/or horizontal
   or radial orientation either regularly or irregularly
   spaced. Use a small width of line that is one color on a
   white or colored background.

2. Using the same line thickness, add lines in a random or
   regular manner using different colors.

3. Using other tools and materials, change or add lines of
   different sizes, thicknesses, types, colors or textures.

After each team member finished Visual Exercise 2 with his
of her respective medium, they should exchange media and
repeat the procedure. Again, all paper creations should be
organized by the group as a wall grid matrix display.

Visual
Exercise 3

The Shape

The different media are used to create different arrange-
ments of shape types on a paper or glass such as:
1. outlined, filled, textured
2. geometric, free-form
3. man-made, natural

Shapes can be made by drawing as well as using techniques like
rubbing, stamping or object tracing. The procedures for
creating with both computer and traditional media are the
following:

Computer Users

1. Using a small brush size, create a medium-sized outlined
   geometric shape (circle, square, triangle, etc.) using
   one color on a black background.

2. Still using one color and brush size on a black back-
   ground attach other larger and smaller shapes to the
   original shape. Make one solid complex shape by using
   the FILL mode. Save to disk as SHAPE 1.

3. Change the color of the background by cycling through
   the various colors and values until you find one that
   is harmonious. Save this on your art collection disk
   as SHAPE 2.

4. Change the shape or the background to a texture that
   pleases you by using one of the FILL modes. Save to
   disk as SHAPE 3.

5. Create new shapes or add lines and dots using new
   colors to finish the composition. Save to disk as
   SHAPE 4.

Traditional Art Material Users

1. Create a single medium sized geometric or free form shape
   using one color on a white or colored background.

2. Using the same object color attach other shapes to the
   original shape to create a more complex shape.

3. Using different tools and media create other shapes,
   changing size, shape, color and texture.

4. Upon completion, again exchange computer and traditional
   media and repeat the procedure. Arrange the finished
   paper creations on the wall matrix.

Visual
Exercise 4

Composition

Using the principles of the three previous visual exercises, each participant will create compositions, which mix media as well as point, line, shape, color and texture. Each team member will choose one of the two paired subject matters below to communicate. Each participant will retain that chosen subject matter for both the traditional as well as computer media. The subject matter list is the following:

- Winter/Spring
- Summer/Fall
- Urban/Rural
- Sunrise/Sunset
- Day/Night
- Landscape/Seascape
- Earth/Space

The procedures for creating with both computer and traditional media are the following:

Computer Users

1. Create a random or regular series of lines and/or dots in one color and one weight or size on a black background. Save to disk as COMP 1.

2. To this composition add dots, lines and/or shapes of various sizes and weights, using the same color on a black background. Save as COMP 2.

3. Change the background color, cycling through the different colors and values until you find one that is harmonious to the subject. Save to disk as COMP 3.

4. Fill textures to this composition by dotting, using lines or FILL textures. Save to disk as COMP 4.

5. You can refine the composition, cut out parts as well as look at different resolutions by using the magnification mode ▣ at the far right of your TV screen palette.

Traditional Art Material Users

1. Create a random or regular series of lines and/or dots in one color and one size and weight on a white or colored background.

2. To this composition add dots, lines and/or shapes of
   various sizes, weights, colors and/or textures to
   communicate the subject that was selected.

Upon completion the team members should exchange computer
and traditional media and repeat the procedure. Arrange the
finished paper creations on the wall matrix.

Computer Art   The final results of each computer-generated visual exercise
Display   will be combined on a slide show disk by each participant.

                        The final results of each computer-generated visual exercise
                        will be displayed at the close of the tutorial using the
                        ARTSHOW portion of the SUPERPAINT Program and the large screen
                        video projector as the display device.

SUPERPAINT is a disk program, which allows people the creative possibility of making art with the computer.

How to load SUPERPAINT

To load the program into the computer's memory, the following steps must be taken:

1. Be sure the computer and disk drive are turned off.

2. Turn the disk drive ON by pressing the switch on the front of the drive.

3. When the disk drive is quiet, push the button under the disk drive door. When the door opens, insert the disk into the drive. Shut the disk drive door.

4. Turn the Computer ON by pressing the switch marked "POWER" on the right side of the computer.

5. Wait until the "MAIN MENU" appears on the screen. Select SUPERPAINT by pressing the number "2" on the computer keyboard. A black screen with a "palette" of colors and textures will appear on the lower portion of the screen.

Creating with SUPERPAINT

Now that the program is loaded into the computer's memory, you may begin to create by doing the following:

Color

1. With the joystick move the flashing cross symbol (cursor) into the second paint pot from the left.

2. Press the red joybutton 2 times.

Hue

3. Push the joystick to the left, then move the joystick up or down to change to different colors (hues)

Value

4. Push the joystick to the right, then move the joystick up or down to look at the different color values (darkness or lightness)

5. Press the red joybutton to set the color hue and value.

All 4 left most paint pots can be changed in terms of color hue and value by following the above instructions.

Note

The left most paint pot controls the background hues and values.

Textures

The six paint pots to the right of the 4 solid color paint pots contain textures, with which you can draw or fill.

1. Move the cursor into one of the paint pots that has texture. Press the red joybutton twice. A texture palette will appear with a flashing square cursor.

2. Move the flashing square cursor with the joystick. The three areas directly above the palette will indicate the present texture (left-most area) as well as the texture captured by the flashing cursor (right-most area) and the magnified version of the captured texture (middle square).

3. Once a texture is selected, press the red joybutton to set the new texture and move the cursor down to the paint pot area.

4. All textures may be changed by using the above procedure.

Color and
Texture Selection

To select a color or texture for drawing or filling move the cursor into the desired paint pot with the joystick. Pressing the red joybutton once sets the selection.

Brush

Now that the colors and textures are selected, the next step is to choose the brush with which to draw. This can be done the following way:

1. Move the cursor over to the box marked with an "H". A white band will appear with a series of words from which to select.

2. With the joystick, move the flashing box cursor down one word and to the left one word so that the flashing box surrounds the letter "B" of "Brush".

3. Press the red joy button. A white screen will appear with "brush" types and a selection area at the bottom. For this exercise change only the "Width" by moving the cursor down one line.

4. There are 9 widths from which to choose. "1" is the smallest and "9" is the largest. Choose one by moving the joystick left or right, then press the red joybutton to set it.

5. Move the cursor to "paint" and push the red joybutton to return to the paint pot area (Palette).

Draw

The most basic method of drawing is to press the red joybutton and, at the same time, move the joystick in any direction. The image you have created will be drawn in the color or texture that you have selected.

Another way to draw is the following:

1. Move the cursor to the box marked with the letter "H". Press the red joybutton. A white band with words will appear at the bottom of the screen.

2. With the joystick, move the flashing box cursor to the "D" of the word "Draw".

3. Press the red joybutton. A white screen with a line, a rectangle and a circle will appear.

4. With the joystick, move the flashing box to the desired selection and press the red joybutton to set the selection.

You will automatically be returned to the "Palette" area.

Drawing
a line

5. If you choose "Line" then move the cursor to a desired location in the large area (creation area) above the paint pots. Press the red joybutton.

Move the cursor to another area on the screen and press the red joybutton again. The computer will automatically draw a line between the two selected points on the screen.

Drawing a
Rectangle

6. If you chose "Rectangle" again by defining two points with the joystick and red joybutton, the computer will automatically draw a rectangle with the two points defining the diagonal corners of that rectangle.

Drawing a
Circle

7. If you chose "Circle," two points are selected which define the center and radius of the circle. The circle is automatically drawn.

Fill

Up to this point, the background has been either black or a solid color and the shapes have been defined by outline. With "FILL" the background can be given a texture and the outer shapes can be filled with a solid color or texture through the following:

1. Move the flashing crossbar cursor to the box with the letter "H." Press the red joybutton and then move the flashing box to the letter "F" of "Fill." Press the red joybutton. 3 "Fill" selections will appear.

Regular
Fill

2. Select "Fill" to fill inside or outside of an outline
   shape with the same color as the outline only. This
   is done by moving the cursor to "F" for "Fill" then
   pressing the red joybutton. Move the cursor inside or
   outside of the outline shape and press the red joybutton.

I-Fill

3. Select "I-Fill" to fill a shape or area with a color that
   is the same or different than its boundary.

   1. Move the cursor to Help space and press joybutton to
      see Help index.

   2. Move cursor to Fill and press joybutton to see Fill
      menu.

   3. Move cursor to I-Fill and press joybutton.

   4. Move cursor to the top half of the paint pot of the
      color you wish to replace. Press joybutton.

      There should now be a marker on the top of the paint
      box.

   5. Move cursor to bottom half of the paint pot of the new
      color you will use. Press joybutton.

   6. Move cursor onto shape whose color you will replace.
      Press joybutton.

X-Fill

4. Select "X-Fill" to fill a shape or area with a color that
   is different than its boundary.

   1. Move cursor to Help space and press joybutton to
      see Help index.

   2. Move cursor to Fill and press joybutton to see Fill
      menu.

   3. Move cursor to X-Fill and press joybutton.

   4. Move cursor to the top half of the paint pot of the
      boundary color. Press joybutton.

   5. There should now be a marker on the top of the paint
      pot.

   6. Move cursor inside shape to be filled and press
      joybutton.

Utilities   Utilities allow you to Get (Load), Keep (Save) or Junk
                   (Delete) the artworks that you have created. This function
                   is available by doing the following:

                   1. Move the cursor to the "H" box and press the red joy-
                      button. A gray screen with a red outline will appear.

                   2. Using the keyboard, enter the number "2."

                   3. Again with the keyboard enter the letters "G," "K,"
                      "J," or "P" depending on which selection you desire.

Note   The selection of the letter "P" returns you to your painting.

Erase   In order to erase a painting from the screen, you must do
                   the following:

                   1. Move the cursor to the "H" box and press the red joy-
                      button. A "Yes" or "No" choice will appear.

                   2. If you wish the picture to be deleted, move the flashing
                      box to "Yes" with the joystick and press the red
                      joybutton.

1. To store pictures, you must use the ART COLLECTION disk (not the PAINT disk).

2. To activate Art Show, you will need to use both the keyboard and the joystick.

3. Here's how to select and display your pictures:

Keyboard

4. Press START for Main Menu if you are not already there.

5. Press A for Art Show.

6. Now, insert your storage disk into disk drive. If you have only one disk drive, remove the Master Disk while in Art Show.

7. You will be asked to select the disk drive with your pictures. If you have more than one disk drive, you must indicate which disk drive has the pictures you want. Press 1, 2, 3, or 4.

8. You will see a list of your pictures.

Joystick

9. Move cursor to first picture you want to show. Press joybutton.

10. Move cursor to second picture you want to show. Press joybutton.

11. Continue to move cursor and press joybutton to select all the pictures you want to show. (Up to 24)

Materials List

1. Crayons (smallest box)

2. Scissors

3. Paint Brushes

4. Tempera Paints

5. Stick-Flat Glue

6. Color-aid Paper (at least 11 inches wide)

7. Colored Tissue Paper

8. Strathmore "300" Drawing Paper (11" x 14" cut to 11" x 11")

9. Assorted fruits and vegetables arranged in table displays to be used for stamping shapes and snacking.

10. Press-on Letters, Numbers and Symbols

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